

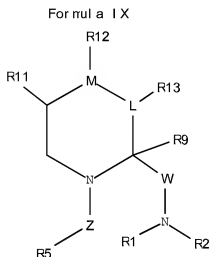
### **Response to Remarks**

1. Applicant's arguments, filed 12/3/2009 and 2/23/2009, with respect to the rejection of claims 31, 32, 34, and 35 under 35 USC § 112, second paragraph, have been fully considered and are persuasive. The claims have been amended to remove indefiniteness. The rejection of claims 31, 32, 34, and 35 has been withdrawn.

In a telephone interview conducted on 2/12/2010 with the Applicants' attorney, David Clough, a rejoinder of the withdrawn method claims to the allowable compound and composition claims was requested. In the amendment submitted on 2/23/2010, claims 2, 7-12, and 15 were cancelled. The amended method claims are commensurate in scope with the compound claims, and the restriction requirement is withdrawn. Claims 1, 3-6, 13-14, 16-32, and 34-36 are found allowable over the prior art; a statement of reasons for allowance is shown below.

### **Reasons for Allowance**

2. The following is a statement of reasons for the indication of allowable subject matter: There exists no prior art which teaches or suggests the compounds as claimed. The closest prior art is El Tayer et. al., WO 00/08015 patent publication. El Tayer et. al. teaches compounds of formula IX, shown below, as follicle stimulating hormone agonists which are useful for the treatment of infertility:



Where L and M = CH, N, O, S (but not both heteroatoms) (p. 7, lines 1-12);

W = (C=O), (NH(C=O)), (NH(C=O)CH<sub>2</sub>), (C=NH), (C=S), SO<sub>2</sub>, CH<sub>2</sub>, or methylene substituted with one or more substituents (p. 3, lines 27-29);

Z = (C=O), (NH), (C=N), SO<sub>2</sub>, or (C=O)NH, etc. (p. 4, lines 3-5);

R<sup>1</sup> and R<sup>5</sup> = H, C<sub>1-10</sub> alkyl, aryl, C<sub>3-7</sub> heterocycle, etc. (p. 3, lines 9-19);

R<sup>2</sup> = H, C<sub>1-6</sub> alkyl, aryl, aryl substituted with one or more substituents, aryl groups fused with other aryl groups, heterocycles, etc. (p. 3, lines 20-26);

R<sup>9</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup> = H, C<sub>1-8</sub> alkyl, etc. (p. 7, lines 7-9, p. 4, lines 21-23, and p. 5, lines 1-8).

The compounds encompassed by formula IX as taught by El Tayer et. al. includes a broad genus of compounds. However, there is no suggestion or teaching by El Tayer et. al. to select the compounds with the claimed core structure from the broad genus taught by El Tayer et. al., for the treatment of infertility. In particular, the claimed compounds are piperazine derivatives; while M is taught as possibly being selected from CH, N, O, or S, the compounds exemplified by El Tayer et. al. are not piperazine

sulfonyl or piperazine sulfamoyl derivatives. There exists no additional prior art or teaching to derive the claimed compounds from the compounds taught and exemplified by El Tayer et. al. Therefore, the claimed compounds are found novel and non-obvious over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

3. Claims 1, 3-6, 13-14, 16-32, and 34-36 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARAH PIHONAK whose telephone number is (571)270-7710. The examiner can normally be reached on Monday-every other Friday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on (571)272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S.P.

/SREENI PADMANABHAN/

Supervisory Patent Examiner, Art Unit 1627